

Learning and Motivation

EDITOR: J. Bruce Overmier

ASSOCIATE EDITORS:

William M. Baum
Robert C. Bolles
Russell M. Church
Peter W. Frey

Vincent LoLordo
Roger L. Mellgren
James S. Myer
William F. Prokasy

Evalyn F. Segal
Sara J. Shettleworth
Norman E. Spear
F. Robert Treichler

VOLUME 5, 1974



ACADEMIC PRESS
New York and London

A Subsidiary of Harcourt Brace Jovanovich, Publishers

Copyright © 1974 by Academic Press, Inc.

All rights reserved

No part of this publication may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

CONTENTS OF VOLUME 5

NUMBER 1, FEBRUARY 1974

WERNER, K. HONIG. Effects of Extradimensional Discrimination Training upon Previously Acquired Stimulus Control . . .	1
KATHLEEN P. FAIRCLOTH. The Importance of Subject Control in Reinforcing Brain Stimulation	16
VINCENT M. LoLORDO, JOHN C. McMILLAN, AND ANTHONY L. RILEY. The Effects upon Food-Reinforced Pecking and Treadle-Pressing of Auditory and Visual Signals for Response-Independent Food	24
J. BRUCE OVERMIER AND KARL H. SCHWARZKOPF. Summation of Food and Shock Based Responding	42
R. J. BRACEWELL AND A. H. BLACK. The Effects of Restraint and Noncontingent Preshock on Subsequent Escape Learning in the Rat	53
TERRY L. DeVIETTI, JOHN F. MAYSE, AND LARRY W. MORRIS. Foot-shock/ECS Induced State Dependent Learning in Rats: Parametric Evaluation of ECS Intensity and Time of Testing . . .	70
STEPHEN C. FOWLER AND JOSEPH M. NOTTERMAN. Reinforcement Rate and Force Proportional Reinforcement	80
GLYN THOMAS AND DEREK BLACKMAN. Quasireinforcement: Control of Behavior by Second-Order Internal Schedules . . .	92
THOMAS ZENTALL, DAVID HOGAN, AND JANICE HOLDER. Comparison of Two Oddity Tasks with Pigeons	106
JAMES D. WROTEN, PATRICK E. CAMPBELL, AND CHARLES T. CLEVELAND. Response Persistence in the Rat Following Intermittent Punishment and Partial Reward: Effects of Trail Sequence .	118
R. G. ISAAC AND G. L. ROWLAND. Conditions Necessary for Sand Digging in Laboratory Rats	128

NUMBER 2, MAY 1974

DANIEL B. BERCH. A Theoretical Analysis of the PAN Ambiguous-Cue Problem	135
HOWARD S. HOFFMAN AND RICHARD L. SOLOMON. An Opponent-Process Theory of Motivation: III. Some Affective Dynamics in Imprinting	149
MICHAEL P. BROWNE AND JAMES A. DINSMOOR. Wyckoff's Observing Response: Pigeons Learn to Observe Stimuli for Free Food but not Stimuli for Extinction	165

BOW TONG LETT. Visual Discrimination Learning with a 1-Min Delay of Reward	174
NORMAN S. BRAVEMAN. Poison-Based Avoidance Learning with Flavored or Colored Water in Guinea Pigs	182
WARD O'NEILL AND GERALD B. BIEDERMAN. Avoidance Conditioning as a Function of Appetitive Stimulus Pretraining: Response and Stimulus Transfer Effects	195
CHARLES R. CROWELL. Conditioned-Aversive Aspects of Electric Shock	209
JAMES G. TERHUNE AND DAVID PREMACK. Comparison of Reinforcement and Punishment Functions Produced by the Same Contingent Event in the Same Subjects	221
JAMES ALLISON AND WILLIAM TIMBERLAKE. Instrumental and Contingent Saccharin Licking in Rats: Response Deprivation and Reinforcement	231
STEPHEN R. OVERMANN AND M. RAY DENNY. The Free-Operant Partial Reinforcement Effect: A Discrimination Analysis	248
MITRI E. SHANAB, DANA W. BIRNBAUM, AND GERALD CAVALLARO. Positive Contrast Obtained in Reacquisition Following Interpolation of Nonreinforced or Partially Reinforced Trials	258

NUMBER 3, AUGUST 1974

JERRY A. HOGAN. On the Choice between Eating and Aggressive Display in the Siamese Fighting Fish (<i>Betta splendens</i>)	273
GLENN E. MACDONALD AND LEYLA DE TOLEDO. Partial Reinforcement Effects and Type of Reward	288
E. J. CAPALDI AND M. R. FREESE. Partial Reward Training Level and Reward Magnitude: Effects on Acquisition and Extinction	299
N. J. MACKINTOSH. A Search for Contrast Effects in Discrete-Trial Discrimination Learning by Pigeons	311
ROBERT C. BECK AND LIANE D. BIDWELL. Incentive Properties of Sucrose and Saccharin under Different Deprivation Conditions	328
HERBERT L. PETRI. Discrimination of Schedules that Predict Reinforcement from Non-Predictive Ones and Preference for Less Predictive Schedules by Rats	336
M. J. MORGAN. Do Rats Like to Work for Their Food?	352
A. G. BAKER. Conditioned Inhibition is not the Symmetrical Opposite of Conditioned Excitation: A Test of the Rescorla-Wagner Model	369
THOMAS J. TESTA, JANICE M. JURASKA, AND STEVEN F. MAIER. Prior Exposure to Inescapable Electric Shock in Rats Affects Extinction Behavior After the Successful Acquisition of an Escape Response	380

WILLIAM A. ROBERTS AND DOUGLAS S. GRANT. Short-Term Memory
in the Pigeon with Presentation Time Precisely Controlled . . . 393

NUMBER 4, NOVEMBER 1974

MICHAEL DOMJAN AND THOMAS G. BOWMAN. Learned Safety and
the CS-US Delay Gradient in Taste-Aversion Learning . . . 409

R. G. M. MORRIS. Pavlovian Conditioned Inhibition of Fear During
Shuttlebox Avoidance Behavior 424

DONALD E. JACKSON AND DENNIS J. DELPRATO. Aversive CSs Sup-
press Lever Pressing for Food but not the Eating of Free Food . . . 448

STANLEY J. WEISS AND SUSAN L. VAN OST. Response Discriminative
and Reinforcement Factors in Stimulus Control of Performance
on Multiple and Chained Schedules of Reinforcement 459

E. J. CAPALDI AND MICHAEL D. MORRIS. Reward Schedule Effects
in Extinction: Intertrial Interval, Memory, and Memory
Retrieval 473

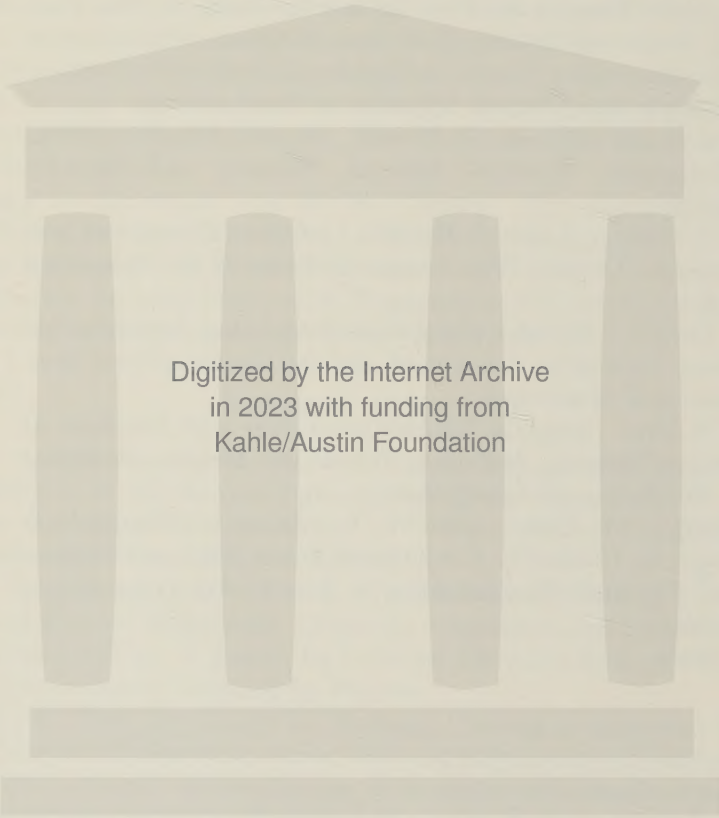
WILLIAM P. DUNLAP, LARRY F. HUGHES, LAWRENCE DACHOWSKI, AND
THOMAS J. O'BRIEN. The Temporal Course of the Frustration
Effect 484

DAVID R. LINDEN. Transfer of Approach Responding Between Pun-
ishment, Frustrative Nonreward, and the Combination of Pun-
ishment and Nonreward 498

CHARLES N. UHL. Response Elimination in Rats with Schedules of
Omission Training, Including Yoked and Response-Indepen-
dent Reinforcement Comparisons 511

D. A. POWELL, M. LIPKIN, AND W. L. MILLIGAN. Concomitant
Changes in Classically Conditioned Heart Rate and Corneo-
retinal Potential Discrimination in the Rabbit (*Oryctolagus*
cuniculus) 532

AUTHOR INDEX 548



Digitized by the Internet Archive
in 2023 with funding from
Kahle/Austin Foundation

Notice to Contributors:

The publishers wish to call your attention to the following instructions for preparing manuscripts for *Learning and Motivation*. Format and style of manuscript should conform to the conventions specified in the "Publication Manual" of the American Psychological Association (1200 Seventeenth Street N.W., Washington, D. C. 20036; 1967 Revision, \$1.50), with the exceptions listed below. Please note that it is the responsibility of the author that manuscripts for *Learning and Motivation* conform to the requirements of this journal.

INFORMATION FOR AUTHORS

Learning and Motivation publishes original experimental and theoretical papers addressed to the analysis of basic phenomena and mechanisms of learning and motivation, including papers on biological and evolutionary influences upon the learning and motivation processes. Studies involving either animal or human subjects are invited. Publication in *Learning and Motivation* is subject to the Editor's judgment that inclusion will make a substantial contribution to our understanding of basic principles of learning and motivation and to general behavior theory. Monographic reports of an integrated series of experiments, as well as papers reporting a single experiment, will be published, but preference is given to longer, more substantive papers. Brief notes describing important new methods and techniques for studying or quantifying phenomena of learning and motivation are also published.

All manuscripts should be submitted to the Editor: **J. Bruce Overmier, Department of Psychology, 212 Elliott Hall, University of Minnesota, Minneapolis, Minnesota 55455.**

Form. Type at least double-spaced throughout (including tables, footnotes, references, and figure captions), with the original typescript on one side of a good grade of $8\frac{1}{2} \times 11$ inch white paper, with 1 inch margins on all sides. Mimeographed or duplicated manuscripts will be accepted *if they are indistinguishable from good typed copies.*

Authors must submit four (4) complete copies of the manuscript. Each copy *must* include all figures and tables, although only the ribbon copy need include glossy prints. Authors desiring "blind" reviewing of their manuscript must submit two (2) complete copies and two (2) copies free from identifying information.

Number the pages consecutively. *Page 1* should contain the article title, author(s) name(s), and affiliation; at the bottom of the page type a short title not exceeding 35 characters and spaces and the name and complete mailing address (including zip code) of the person to whom proofs should be sent. *Page 2* should contain a short abstract, approximately 100 to 150 words in length.

Headings. The organization of the paper must be clearly indicated by appropriate headings and subheadings.

Abbreviations. Do not use final periods with units of measure that are abbreviated (cm, sec, kg, etc.) in text or in tables, except for "in." (inch).

Metric units of physical measurement, as developed by the Conference of Editors of the Royal Society (London) and reported in *American Scientist*, 1968, **56**, 159-164, are required.

Symbols. Underline letters that represent mathematical symbols; these will be set in *italic* type.

Equations. Number equations consecutively, with the number placed in parentheses to the extreme right of the equation. Refer to equations as Eq. 3 or simply (3), except at the beginning of a sentence, when the word Equation should be spelled out. Punctuate equations to conform to their place in the syntax of the sentence.

Results and Statistics. *Learning and Motivation* does not require the use of statistics. Statistics, however, are often an *aid* to interpretation, but they are just that and do not constitute the main findings. The effects of the experimental manipulations should be clearly stated in sentence form with reports of statistical tests cited, as appropriate, in a supplementary fashion. Authors choosing to use statistical tests are encouraged to (a) state their rejection region at the outset and thereafter omit explicit *p*-values for each comparison, indicating only whether or not the comparison is significant by the stated criterion, and (b) report measures of the degree of association between the independent variable(s) and the dependent variable(s), e.g., omega squared (ω^2 ; *Psychological Bulletin*, 1973, **79**, 391–395).

Footnotes. Use only when absolutely necessary, in which case type the footnotes consecutively, double-spaced, on a separate sheet of paper in the order of their appearance in the text. Use Arabic numbers 1, 2, etc. In the text, refer to footnotes by superscript 1, 2, etc.

Tables. Number tables consecutively with Arabic numerals in order of their appearance in the text. Type each table, double-spaced throughout, on a separate sheet; avoid vertical rules. Supply a short descriptive title below the table number. Type table footnotes, lettered *a*, *b*, etc., at the end of the table. For further information, see the "Publication Manual," pages 33–34.

Illustrations. All illustrations are considered as figures, and *must be supplied in finished form* on $8\frac{1}{2} \times 11$ or 8×10 paper, ready for reproduction. Pages 37–39 of the "Publication Manual" describe concisely the proper preparation of line drawings and of photographs.

Plan figures to fit the proportion of the printed page (allowing for the legend under the figure), and take care that lettering on the original is large enough to be legible after a reduction of 60%. Author(s) name(s) and figure numbers should be lightly penciled on the reverse side.

Number the figures with Arabic 1, 2, etc. in order of mention in the text. Supply descriptive legends (captions) for all figures. Type these (double-spaced throughout) consecutively on a separate sheet of paper.

References. Cite references in the text by surname of the author, followed by year of publication.

Smith (1962) found that . . .

Contrary results (Brown, 1969) have been . . .

When a reference has two authors, cite both names, as (Harris & Cooper, 1960). When more than two are involved, cite the surnames of all authors, with the date, at first mention, but in subsequent citations of the same reference give the surname of the first author followed by "*et al.*" and the year, as

(Colberg, Matthews, & Cooper, 1963)

first mention in text

(Colberg *et al.*, 1963)

second mention in text

In citing more than one publication by the same author or authors in the same year, add suffixes *a*, *b*, etc. after the year, as (Smith, 1962a), and repeat the letter identification in the bibliography, at the end of the reference.

Under the heading REFERENCES arrange the literature citations in the text in alphabetical order according to the surname of the first author. Do not abbreviate journal names; write them out in full according to the form followed by *Psychological Abstracts*, Volume 42. Further information on literature citations may be found on pages 39–47 of the "Publication Manual."

The following examples show style of capitalization and punctuation for journal articles, books, and edited books:

CASSADY, M., COLE, M., HALL, M., & WILLIAMS, T. The role of the CS and its relationship to the CR in avoidance conditioning. *Learning and Motivation*, 1971, 2, 12-25.

CAUTELA, J. R., & WISOCKI, R. A. The use of male and female therapists in the treatment of homosexual behavior. In R. D. Rubin & C. M. Frank (Eds.), *Advances in behavior therapy*. New York: Academic Press, 1968. Pp. 165-174.

TUCKER, I. *The psychology of adjustment*. New York: Academic Press, 1970.

[Use underline for journal names and book titles only.]

Author's alterations in excess of 10% of the cost of composition will be charged to the author.

Reprints. 50 reprints will be supplied free of charge. Additional reprints can be ordered on the form accompanying galley proof.

Communication and Affect

LANGUAGE AND THOUGHT

Edited by **PATRICIA PLINER**
LESTER KRAMES
THOMAS ALLOWAY

*Erindale College
University of Toronto
Clarkson, Ontario, Canada*

CONTENTS:

ERIC H. LENNEBERG, What Is Meant by Knowing a Language?

JAMES DEESE, Cognitive Structure and Affect in Language.

PAUL A. KOLERS, Some Modes of Representation.

FERGUS I. M. CRAIK, A "Levels of Analysis" View of Memory.

GREGORY RAZRAN, Symboling and Semantic Conditioning: Anthropogeny.

MORRIS MOSCOVITCH, Language and the Cerebral Hemispheres: Reaction-Time Studies and Their Implications for Models of Cerebral Dominance.

MICHAEL LEWIS and ROY FREEDLE, Mother-Infant Dyad: The Cradle of Meaning.

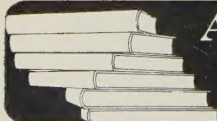
MARTIN ORNE, Communication by the Total Experimental Situation: Why It Is Important, How It Is Evaluated, and Its Significance for the Ecological Validity of Findings.

Author Index—Subject Index.

1973, 214 pp., \$9.95/£4.70

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

AP 4354



Academic Press, Inc.

A Subsidiary of Harcourt Brace Jovanovich, Publishers

111 FIFTH AVENUE, NEW YORK, N.Y. 10003
24/28 OVAL ROAD, LONDON NW1

